

What is claimed is:**1. A door assembly comprising:**

a door frame;

a door having a thickness, said door having one edge thereof hingedly connected to said door frame for swinging between an open and closed position;

means defining a chamber formed within the thickness of the door;

said chamber having an end opening to said one edge;

a support means connected to said door frame disposed in alignment with said end opening of said chamber; and

a door closer assembly disposed in said chamber;

said door closer assembly having one end pivotally connected to said support means;

and means for securing the other end of said door closer assembly within said door chamber.

2. A door assembly as defined in Claim 1 wherein said support means comprises a support bracket secured to said door frame wherein said support bracket is disposed in alignment with said end opening of said chamber for concealment within said chamber in the closed position of said door.

3. A door assembly as defined in Claim 1 wherein said door closer assembly comprises:

a cylinder;
a piston reciprocally disposed within said cylinder;
a piston rod connected to said piston;
said piston rod extending through one end of said cylinder;

means for pivotally connecting the extended end of said piston rod to said support means;

and means for supporting the other end of said cylinder within said chamber.

4. A door assembly as defined in Claim 3 and including a mounting means connected to the other end of said cylinder;

means pivotally connecting said mounting means connected to said other end of said cylinder to said support means;

an end support means disposed within said chamber; and
said piston rod being pivotally connected to said end support means within said chamber.

5. A door assembly as defined in Claim 1 wherein said door closer assembly includes:

a cylinder;
a piston reciprocally disposed within said cylinder;
a piston rod connected to said piston which extends
through one end of said cylinder;
means pivotally connecting said extended end of said
piston rod to said support means;
means rotatably supporting said cylinder for rotation
relative to said piston and connected piston rod; and
means for effecting rotation of said cylinder relative
to said piston and connected piston rod.

6. A door assembly as defined in Claim 5 wherein said
means for rotatably supporting said cylinder within said
door chamber includes:

a mounting bracket connected to said door within said
chamber;
a cylinder extension means,
means for rotatably supporting said cylinder extension
means on said mounting bracket;
said chamber having the other end thereof opening to
the other edge of said door opposite said hinged edge; and
a rod extender connected to said cylinder extension
means;

said rod cylinder extender being disposed in alignment with said other end opening of said door chamber.

7. A door assembly as defined in Claim 1 wherein said door closer assembly includes:

a cylinder;

a piston reciprocally disposed within said cylinder;

a piston rod connected to said piston;

said piston rod extending through one end of said cylinder;

a mounting means connected to the other end of said cylinder;

means for pivotally connecting said cylinder mounting means to said support means;

means for rotatably supporting said piston rod within said chamber;

said means for rotatably supporting said piston rod comprising a sleeve extending through the edge of said door opposite said one edge thereof and through which said piston rod extends;

and said sleeve including means for restricting relative axial movement of said piston rod.

8. A door assembly as defined in Claim 3 wherein said means for pivotally connecting the extended end of said piston rod to said support means comprising an interconnecting link;

said interconnecting link having its opposing ends pivotally connected to said extended end of said piston rod and to said support means.

9. A door assembly as defined in Claim 2 wherein said door closer assembly comprises:

a cylinder;
a piston reciprocally disposed within said cylinder;
a piston rod connected to said piston, said piston rod having a free end extending through one end of said cylinder;

a compression spring disposed in said cylinder between said piston and said one end of said cylinder;

a connecting link pivotally connecting the other end of said cylinder to said support means; and

means connecting the extended free end of said piston rod to said door within said chamber.

10. A door assembly as defined in Claim 2 wherein said door closer assembly comprises:

a cylinder;
a piston reciprocally disposed within said cylinder;
a piston rod connected to said piston;
said piston rod having its free end extending through one end of said cylinder;
a spring interposed between said piston and said one end of said cylinder;
an interconnecting link, said interconnecting link having one end pivotally connected to said free end of said piston rod and having its other end pivotally connected to said support bracket;
and means for rotatably supporting said cylinder within said chamber.

11. A door assembly as defined in Claim 10 wherein said chamber has its other end in communication within an opening formed in the edge of said door opposite said one edge;

and means on the other end of said cylinder for effecting rotation of said cylinder relative to said piston and connected piston rod;

said last mentioned means being accessible through said opening formed in said door edge opposite said one door edge.

12. A door assembly as defined in Claim 2 wherein said door closer assembly comprises:

a cylinder;

a piston reciprocally disposed within said cylinder;

a piston rod connected to said piston;

said piston rod having a free end extending through one end of said cylinder;

means connecting the other end of said cylinder to said support bracket;

means for rotatably supporting said piston rod relative to said cylinder within said chamber;

said chamber having its other end in communication with an opening formed in the edge of said door opposite said one edge thereof;

said free end of said piston rod being accessible through said opening formed in said door edge opposite said one edge thereof.

13. A door closer sized and shaped for concealment within a chamber formed within the width of a door comprising:

a cylinder;

a piston displaceably disposed within said chamber;

a piston rod connected to said piston;

said piston rod having a free end extending through one end of said cylinder; and

means for supporting said cylinder and piston rod within a door chamber.

14. A door closer as defined in Claim 13 and including a spring disposed within said cylinder between said piston and said one end of said cylinder;

and said means for supporting said cylinder and piston rod including means for rendering said cylinder and piston rod rotatable relative to one another.

15. A door assembly comprising:

a door having a predetermined thickness;

said door having one edge thereof adapted for being hingedly connected to a door frame for swinging between and open and closed position;

means defining a horizontally disposed chamber formed within said thickness of said door;

said chamber being disposed in communication with an opening formed in said one edge of said door;

a support bracket adapted for connection to a door frame disposed in alignment with said opening formed in said one edge of said door;

a door closer disposed in said chamber;
a piston displaceably mounted within said cylinder;
a piston rod connected to said piston;
said piston rod having a free end extending through
one end of said cylinder;
a spring means interposed between said piston and said
one end of said cylinder;
means for mounting said door closer within said
chamber to said door and said support bracket,
whereby said cylinder and said piston with said
connected piston rod is rendered rotatable relative to one
another.

16. A door assembly as defined in Claim 15 and
including an interconnecting link connecting one end of
said closer to said support bracket.

17. A door assembly as defined in Claim 15 wherein
said chamber is disposed in communication with another
opening formed in an edge of said door opposite said one
edge to provide access to said door closer within said
chamber.

18. A door assembly as defined in Claim 16 wherein said interconnecting link has one end pivotally connected to said free end of said piston rod and the other end of said link pivotally connected to said support bracket.

19. A door assembly as defined in Claim 15 wherein said interconnecting link has one end pivotally connected to said cylinder and having the other end pivotally connected to said support bracket.